

Application Number: 10/611,842
Office Action Date: 4.12.2006

Filed: 07.01.2003
Amendment Date: 6/6/2006

REMARKS/ARGUMENTS

Subsequent to the Office Action issued on 04.12.2006, claims 1-12 are pending in the application, and remain in consideration. Claims 1 and 7 have been amended. New claims 13 and 14 have been added. Consideration of Claims 1-14 is respectfully requested.

Double Patenting

Notice is taken of the provisional obviousness-typed double patenting rejection made against claims 1-12 of this application over claims of copending application 11/069,173. The latter application is a continuation-in-part of this application and incorporates the subject matter thereof by reference. Therefore, both applications appear to have the same effective filing date for common subject matter, and a need for filing a terminal disclaimer in the instant application is not foreseen.

Amended Claims

Claims 1 and 7 have been amended to more particularly point out and distinctly claim the subject matter of the invention. Support for the amendments can be found in the specification, including at least at Para 0019. Reconsideration is respectfully requested.

Claim Rejections 35 U.S.C. § 102(b)

Claims 7-12 were rejected under 35 U.S.C. § 102(b) as being anticipated by *Zatti*, and as being anticipated by *Sanseau*. It was stated that *Zatti* discloses a bending die containing all the claimed elements and limitations of claims 7-12.

Newly amended Claim 7 sets forth a draw die for tube bending, the die having a bending surface configuration comprising a curve extending between first and second ends, and a portion of the curve being a circular arc. There is a transition portion extending from the circular arc toward the second end and having a curvature decreasing linearly from the curvature of the circular arc to the zero curvature of a straight tube.

Zatti sets forth a metal bending machine for metal bars, rods, and the like (*See*,

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Pg. 1, Lines 1-4), including a rotatable disk mounted on a table, a former (or frame) 16 said to be of any shape, and a follower device. The office action purports that the shape in figure 1 of *Zatti* shows an arcuate portion whose boundaries are labeled A and a transitional portion whose boundaries are labeled B which gradually approached a zero curvature C, with references markings to the drawing of *Zatti* added by the examiner.

Sanseau sets forth a process and device for pipe bending comprising a bending die having a continuously variable bending radius, comprising a logarithmic spiral defined by an equation. (See, e.g., Fig. 3, and Col. 3, Lines 28-30.)

Applicant respectfully traverses any rejection of claim 7 in view of *Zatti*, and any rejection in view of *Sanseau*, because the references fail to teach or describe all elements of the invention as required under 102(b).

Specifically, *Zatti* fails to teach or describe either of a draw die for tube bending, and a transition portion extending from the circular arc toward the second end and having a curvature decreasing linearly from the curvature of the circular arc to the zero curvature of a straight tube. There is no indication in the text of *Zatti* that the invention was intended for or applicable to bending of tubes. Bending of tubes are distinguishable from bending of flat metal objects at least in part because tubular deformation, including folds and oscillations on the bent portion of the tube, formation of localized stresses, and removal of a mandrel, are issues of concern for the instant invention. (See invention, para 0003, 0006). Such issues are not identified or described in the teachings of *Zatti*. Furthermore, neither the text nor the drawing of *Zatti* teaches or describes a transitional portion as described in claim 7 of the instant invention. Therefore, Claim 7 is patentably distinguishable over *Zatti*.

Specifically, *Sanseau* fails to teach or describe a portion of the curve being a circular arc, and a transition portion extending from the circular arc toward the second end and having a curvature decreasing linearly from the curvature of the circular arc to the zero curvature of a straight tube. The arcs described in *Sanseau* are arcs having continuously variable bending radii, as described above. Applicant asserts that the teachings of *Sanseau* do not include a transition portion extending from a circular arc toward a second end and having a curvature decreasing linearly from the curvature, as

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described in the instant invention.

Therefore, for at least all of the above, the applicant asserts that the instant invention of claim 7 is patentably distinguishable from the art cited thereagainst, and reconsideration is respectfully requested.

Claims 8-12 are all ultimately dependent upon now allowable claim 7, and are therefore allowable for at least the same reasons as set forth.

Claim Rejections – 35 U.S.C. § 103(a)

Claims 1-6 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over *Zatti*, and *Sanseau*.

Applicants respectfully traverse any rejection of claims 1-6 under 35 U.S.C. § 103(a) as being unpatentable in view of *Zatti*, and *Sanseau* for the same reasons as set forth with regard to Claims 7-12, and reconsideration is respectfully requested.

New Claims

New Claims 13 and 14 have been added to more particularly point out and distinctly claim the subject matter of the invention. Support for each of claims 13 and 14 can be found in the specification at Para. 0015. No new subject matter has been introduced by these claims. Consideration is respectfully requested.

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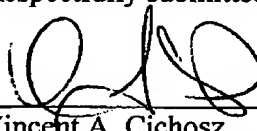
Conclusion

Based upon all of the above, it is respectfully submitted that pending claims 1-14 are in condition for allowance and that same be allowed to proceed to issue.

Please charge costs associated with prosecution of this response to the office action to Deposit Account No. 07-0960.

If the Examiner has any questions regarding the contents of the present response, Applicants' attorney may be contacted at the phone number appearing below during normal business hours.

Respectfully submitted,



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